

Dump Pits

Dump pits are used to receive grain or other products from incoming trucks or trains. Dump pits are set in the ground, and receive products either from hoppers located on the bottom of semi trailers and railcars, or directly from straight trucks, both which operate through gravity or pneumatic means. The holding capacity of the dump pits will vary. However, in most systems the leg and auger are in operation during dumping, thus increasing the real volume of product that can be dumped at one time.



Dump pits are typically modeled as volume sources. The emission rate is commonly specified in units of lbs/hr. If the dump pit is located inside a building, then the building dimensions should be used to determine the parameters of the volume source unless there is a door or other opening in the building near the dump pit from which the emissions are likely to escape. If the entire building is used to characterize the volume source dimensions, then the length/width ratio of the building (rounded to nearest integer) determines the number of volume sources, otherwise a single volume source should be used to represent the emissions from the opening in the building. The release height of each volume source is set at $\frac{1}{2}$ the height of the building or the opening in the building from which the emissions will occur. A building enclosure credit may be applied if appropriate. The volume source tool available on the website can be used to aid in determining the appropriate volume source dimensions.

If the pits are located outside, use the length, width, and height of the truck trailer or railcar to determine parameters of the volume source. A conservative approach is to set the release height at the actual release height of the grain from the vehicle, which is

usually about 2 feet from the ground. The length/width ratio (rounded to nearest integer) determines the number of volume sources.

If the railcar or truck dimensions are unknown, they can be reasonably estimated using the default values found in the Dimensions of Trucks & Railcars document.